

Introduction to Unix

Steven Morgan (he/him)
Melbourne Bioinformatics



Special thanks to Gayle Phillip, Bernie Pope and Andrew Robinson

About this workshop

This workshop is for people new to Unix.

We aim to teach you the basics.

We hope that afterwards you will have the tools to discover the rest of the system on your own.

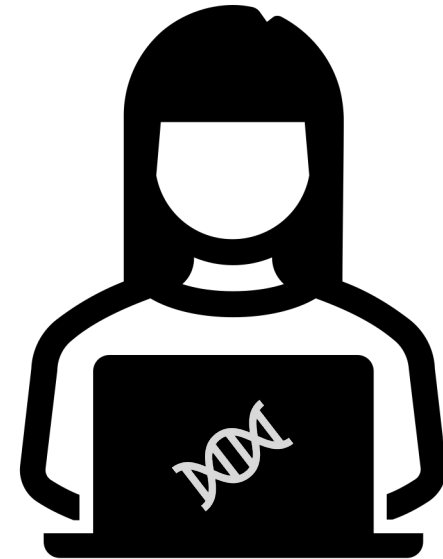


About this workshop

The workshop will consist of:

- Introductions to each topic.
- Some code along activities.
- Hands-on tasks.

This workshop is split into 8 sections.



What is Unix?

Unix is an operating system that consists of a set of programs that act as a link between a computer and users.

Unix is everywhere. Apple MacOS, iOS, Linux and Android OS are all derived from Unix.

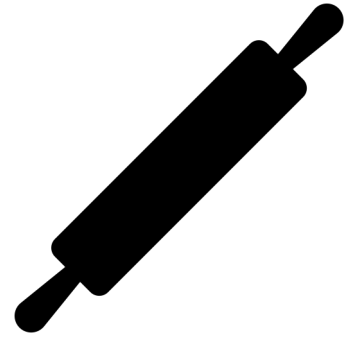


Why Unix?

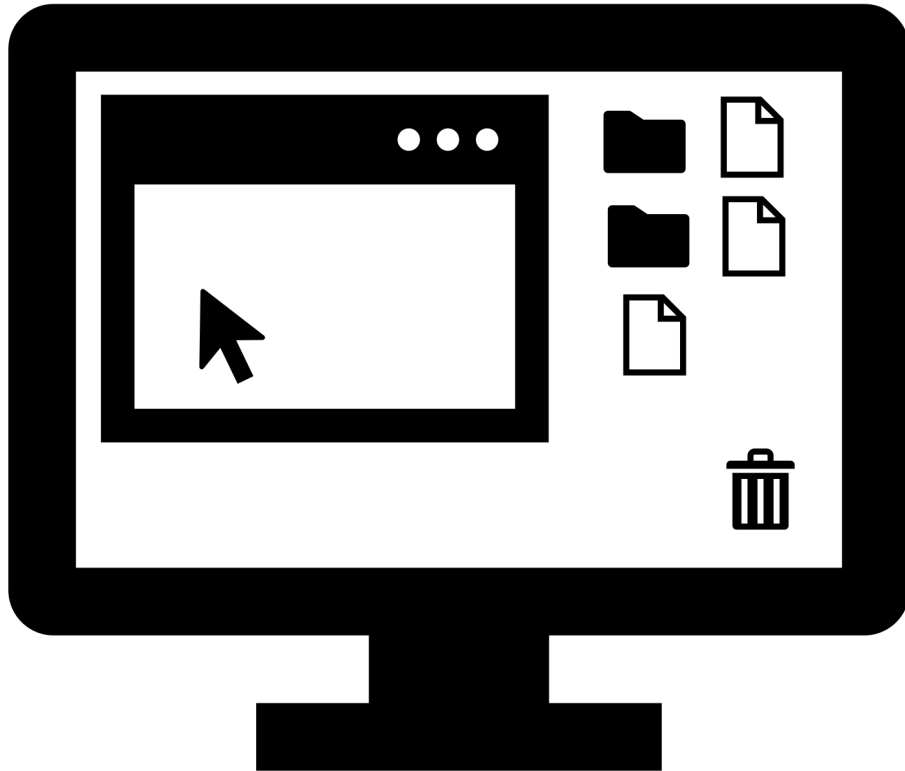
Unix is flexible and robust.

Philosophy: Do one thing and do it well.

Use these simple tools together to achieve complex tasks.



Command line interface



Graphical User Interface (GUI)



Command Line Interface (CLI)

Command prompt

```
beta@test-i5:~/samples$ █
```



Username

Host

Working
directory

Prompt

Type your
commands here!

Command syntax

\$ cal



Command

Command syntax

\$ cal -j

└──┘ └┘

Command Flag

Command syntax

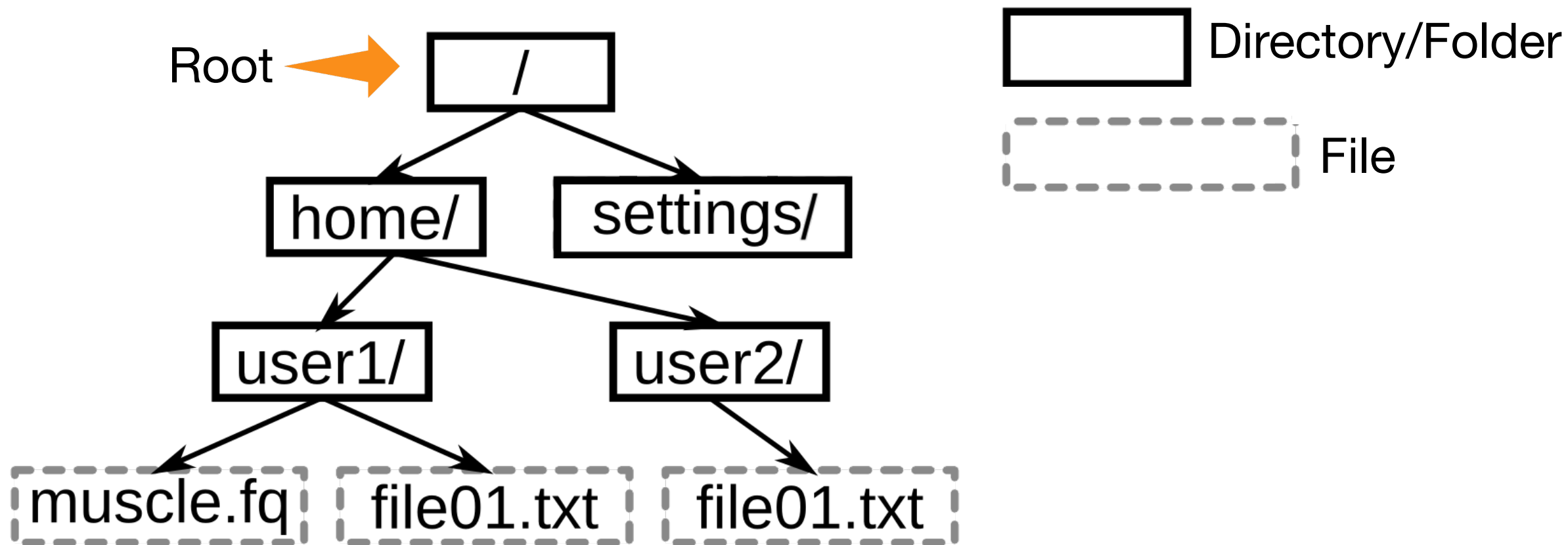
\$ cal -j -m february



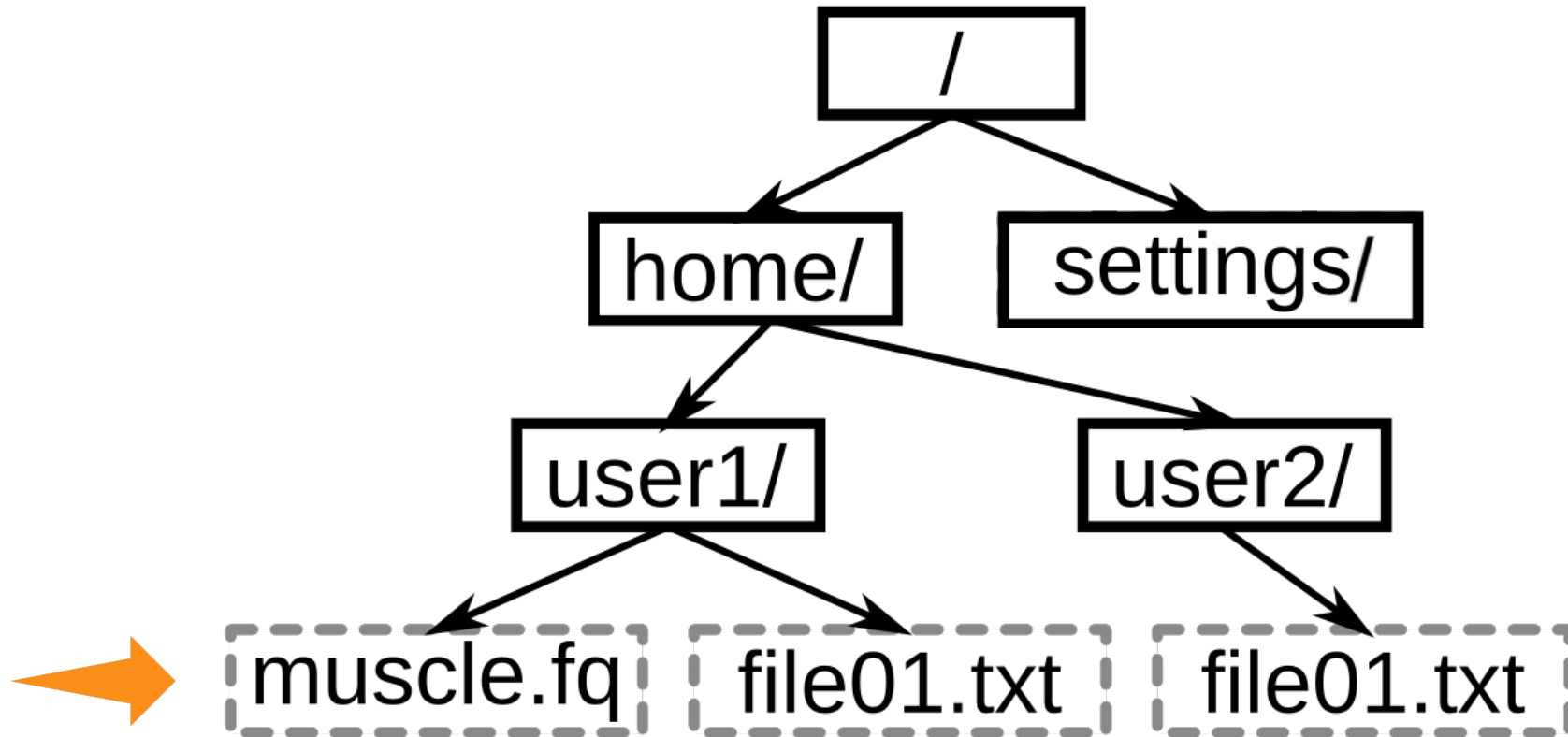
Command Flag

Option

File system

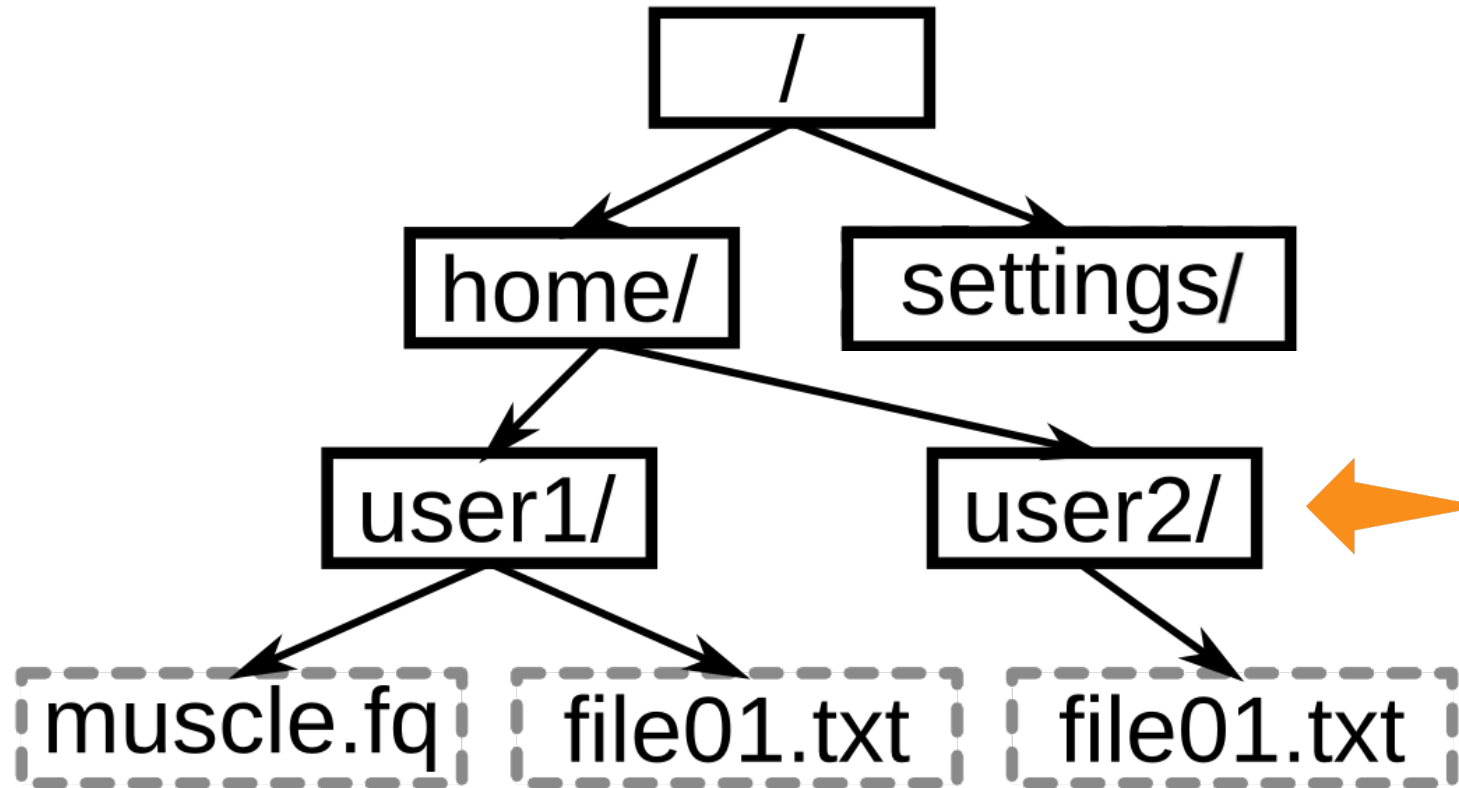


Absolute paths



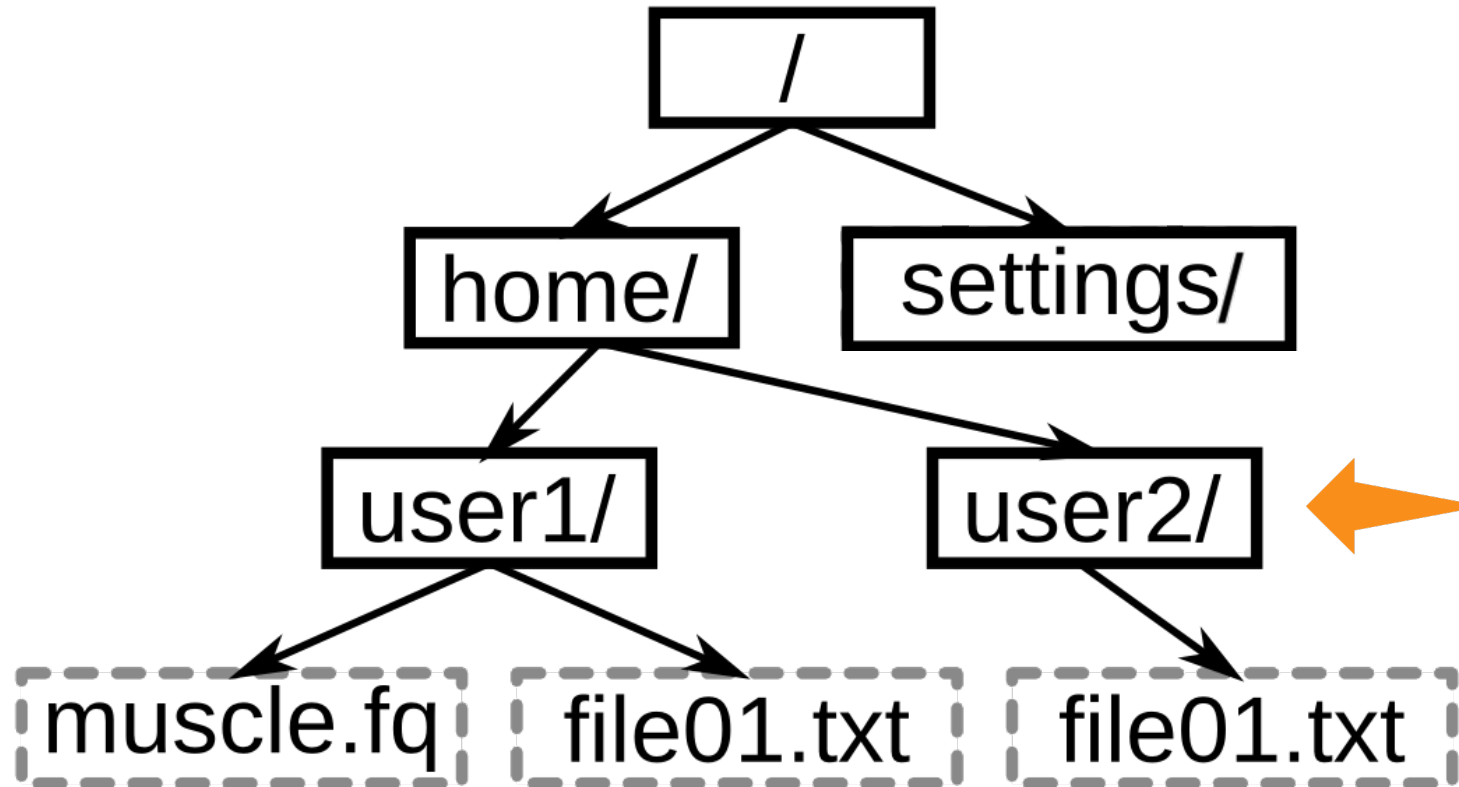
Absolute (full) path to muscle.fq: **`/home/user1/muscle.fq`**

Absolute paths



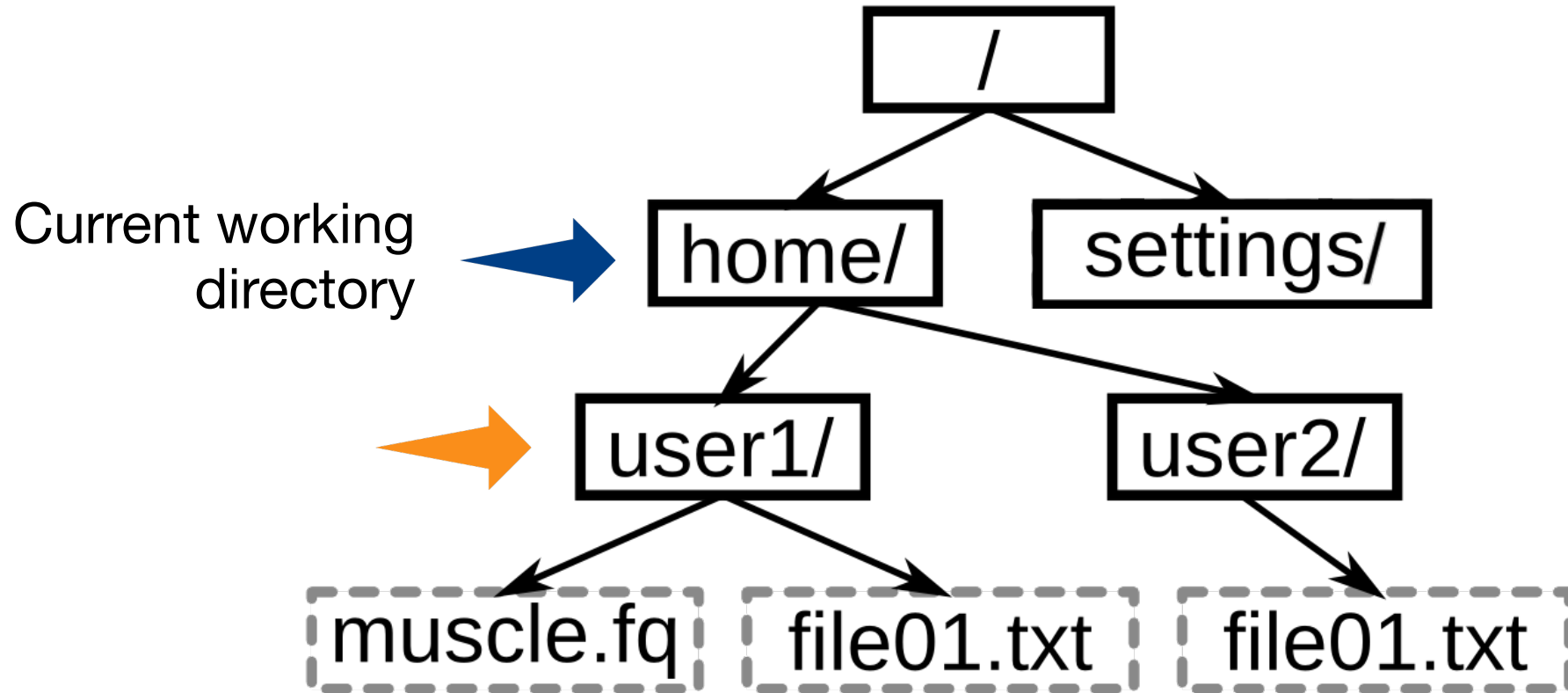
Absolute (full) path to user2: **/home/user2/**

Where am I?



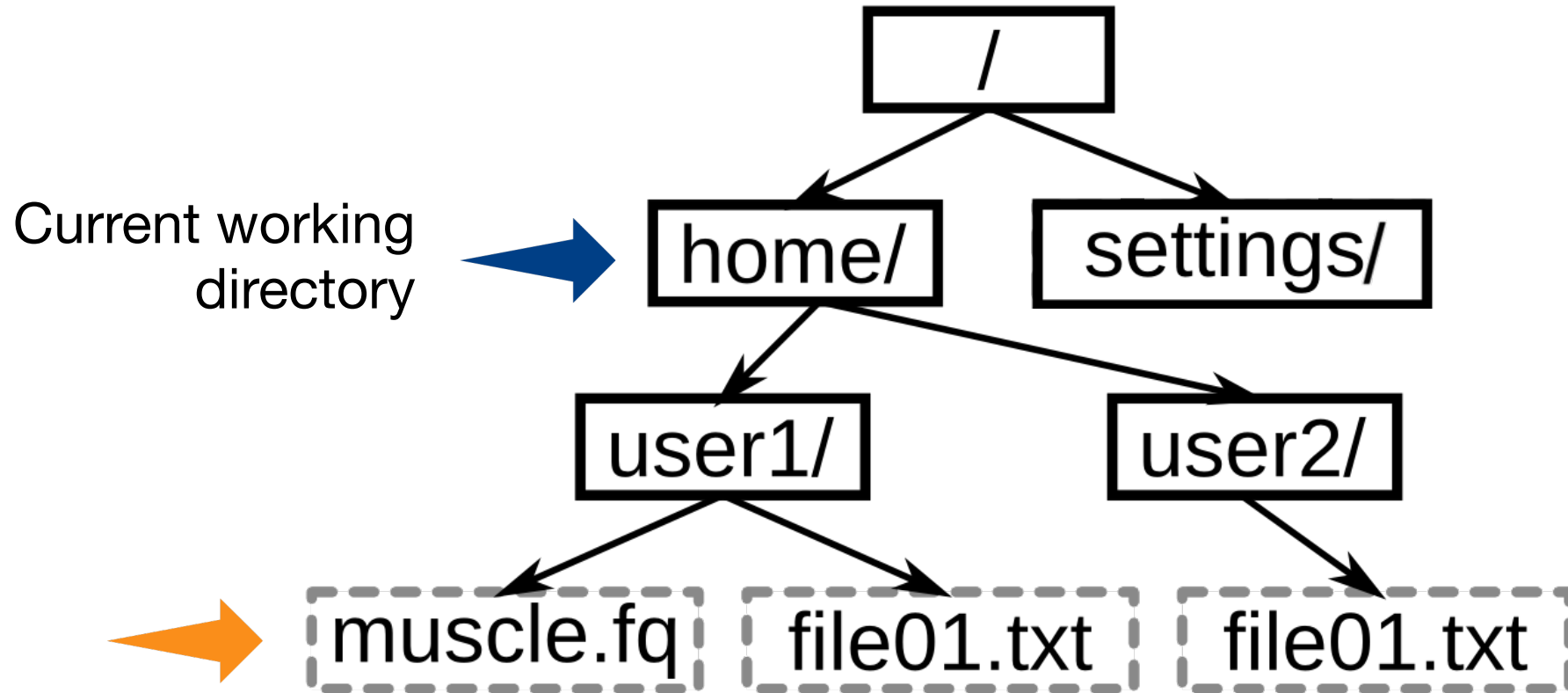
pwd command prints the full path of the current working directory

Relative paths



Relative path: **user1/**

Relative paths



Relative path: **user1/muscle.fq**

Special file names

- / Root directory
- ~ Home directory
- . Current working directory
- .. Parent of current working directory



Remote login



Local computer

Network
→



Remote computer

Remote login



Local computer

Network
→



Remote computer



<https://ardc.edu.au/services/nectar-research-cloud/>

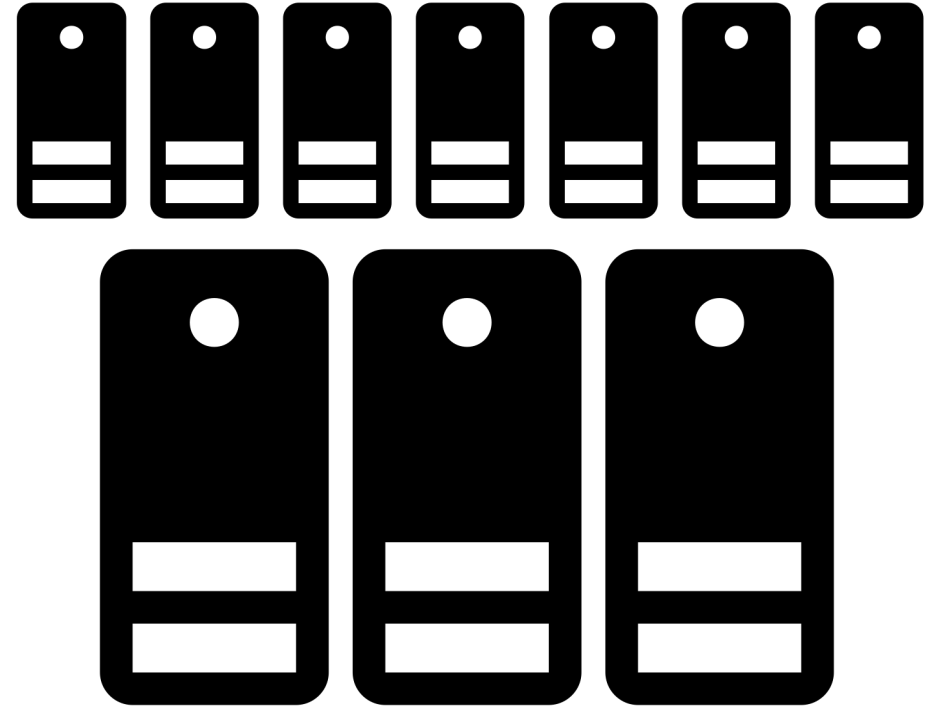
Special thanks to Simon Gladman and Catherine Bromhead for supporting this workshop.

Remote login



Local computer

Network
→



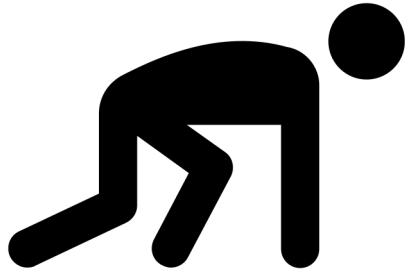
High performance
computing system

Tips

- Commands are case sensitive
- Avoid whitespace in filenames
 - try_underscores
- Pay attention to error messages.
- Help is just an internet search away.



Your turn



To the training material!

